

AID 757 - X

Pages  
214-233

## Elektrotekhnicheskkiye materialy

### Ch. 9 Conducting Materials

Copper: basic data, treatment, brass, data on wires.  
Aluminum, basic data, Aldrey type.  
Steel, characteristics, wire manufacture "bimetal", data.  
Others: Tungsten: treatment, basic data; molybdenum, platinum and mercury, basic data.  
High resistance alloys: constantan, basic data; manganin, nichrome, "Fechrale" and their basic data.  
Carbon: brushes, carbon and graphite, "GOST" standards, basic data, table on p. 232.

233-248

### Ch. 10 Insulated Cables

Wires for windings: basic data, types, tables on pp. 235, 236, 239.

Power cables: diagrams, basic data, "GOST" standards, research of S. M. Bragin mentioned; "vinyflex" and "metalyvn" developed by Andrianov and Ushakov; types of cables and wires: SK, SG, SA, SB, OSB and OSK listed, basic data given; a score of names of scientists developing research on wires and cables is attached.

248-259

### Ch. 11 Magnetic Materials

General information: brief review of achievements.

# Elektrotekhnicheskiye materialy

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Pages

Laminated steel "GOST" standards, basic data, types, table on p. 254.

Various magnetic materials: permalloy, "alsifer" developed by A. S. Zaymovskiy, basic data; magneto-di-electrics, developed by A. S. Zaymovskiy, N. N. Shol'ts, L. I. Rabkin, V. S. Yevseyev for super high frequencies, basic data.

Materials for permanent magnets: alloy types, basic data, table on p. 258.

259-282

## Ch. 12 Various Materials

Lead: basic data, types.

Soldering materials: soft and hard tin, types and table on p. 262, compounds with copper, silver, zinc, cadmium, phosphorus, aluminum, fusing agents: colophony, chlorine, fluorine, etc.; compounds with sodium, potassium, zinc and lithium.

Cement, putty, paste, glue: Portland cement types, according to "GOST" standards; gypsum, lead monoxide and glycerine (gletoglycerine); "ELSI" paste, composition; carbinol glue, composition, also used with nitrous acid,

## Elektrotekhnicheskiye materialy

developed by I. P. Nazarov and based on synthetic rubber; glues BF-2 and BF-4 made of synthetic resin and alcohol.

Bimetals: general information, basic data, properties.

Materials for thermo-couples: "copel", "alumel" and "chromel", basic data.

Thermo color films (temperature recorders), containing mercury, silver, copper.

Storage battery electrolytes, basic data, "GOST" standards; alkali electrolytes, basic data, "GOST" standards, and process.

No. of References: 25 Russian, 1945-1952.

Facilities: Names of Russian scientists listed in Table of Contents.

TARSEV, B. M., ed.

AKADEMIIA nauk SSSR.

Scientific literature on dielectrics Moskva, Izd-vo Akademii nauk SSSR, 1952. 671 p.  
(53-25640)

Z5834.D48A45



TAREYEV, B. M.

May 52

USSR/Electricity - Personalities

"Professor N. P. Bogoroditskiy, in Connection With His 50th Birthday," P. I. Skotnikov, A. F. Alabshev, S. Ya. Sokolov, A. A. Vavilov, V. V. Pasyukov, B. M. Tareyev

"Elektrichestvo" No 5, p 88

Reviews main features of professional life of Nikolay Petrovich Bogoroditskiy, born 20 May 02 in Tashkent. His principal interest has been development of h-f dielectrics. Between 1933 and 1942 he developed the now widely-used radio materials tikond, micalex, h-f glass, radio porcelain, and ultra-porcelain. Affiliations include Military Elec Eng Acad imeni Budenny (1933 - 1942) and a large plant laboratory (where he produced a number of inventions) during World War II. He has published a number of articles in journals, books, and textbooks. He received three Stalin Prizes: for an invention in field of ceramics(1942); for textbook "Electrical Engineering Materials"(1952); and for development and organization of mass production of parts for radio equipment (1952).

PA 240T58

TAREYEV, B. M.

USSR/Electricity - Education

Jun 53

"Correspondence-School Advanced Training of Graduate Engineers," Prof B.M. Tareyev, Dr Tech Sci; Engr A.O. Magidson, All-Union Corresp Power Eng Inst (VZEI)

Elektrichestvo, No 6, pp 57-59

Describes organization of correspondence-school advanced training for graduate power engrs on basis of experience of VZEI in Moscow. Lists, discusses subject matter of projects recently completed for advanced training with VZEI by 8 persons from 8 different places (including Leninakan, Sochi, Taganrog). Submitted 22 Jan 53.

268T54

TAREYEV, B.M., professor, doktor tekhnicheskikh nauk; GIKIS, A.F., dotsent, kandidat tekhnicheskikh nauk; MEZHLUMOV, A.A., dotsent, kandidat tekhnicheskikh nauk (Baku); STOLOV, L.I., dotsent, kandidat tekhnicheskikh nauk (Kazan'); YUMATOV, A.A., inzhener (Kronshtadt); RAKHIMOV, G.R., dotsent, kandidat tekhnicheskikh nauk; KONSTANTINOV, V.I., inzhener (Moscow); NEYMAN, L.R.; ZAYTSEV, I.A., dotsent, kandidat tekhnicheskikh nauk; LUR'YE, A.G., dotsent, kandidat tekhnicheskikh nauk.

Terminology of theoretical electrical engineering. Elektrichestvo  
no.2:74-82 F '54. (MLRA 7:2)

1. Vsesoyuznyy zaochnyy energeticheskiy institut (for Tareyev).
2. Rostovskiy institut inzhenerov zheleznodorozhnogo transporta (for Gikis).
3. Sredneaziatskiy politekhnicheskiy institut (for Rakhimov).
4. Chlen-korrespondent Akademii nauk SSSR (for Neyman).
5. Leningradskiy politekhnicheskiy institut im. Kalinina (for Neyman, Zaytsev, Lur'ye). (Electric engineering--Terminology)

VINTER, A.V., akademik; KUKUSHKIN, I.N., inzhener; TRAPEZNIKOV, V.A.;  
NIKOLAYEV, A.T., inzhener (Muromtsevo, Vladimirskey obl.); KUDELIN,  
Ya.M. (Muromtsevo, Vladimirskey obl.); PETROV, I.I., dotsent, kandidat  
tekhnicheskikh nauk (Moscow); BADALYANTS, M.G., inzhener; BELICHENKO,  
G.M., inzhener; KLAPCHUK, L.D., inzhener; FRANTSUZOV, Ye.M., inzhener;  
TAREYEV, B.M., professor, doktor tekhnicheskikh nauk; MAGIDSON, A.O.,  
inzhener.

Improving the knowledge of power engineers through correspondence  
courses. Remarks on B.M.Tareev's and A.O.Magidson's article. Elek-  
trichestvo no.3:76-80 Mr '54. (MLRA 7:4)

1. Energeticheskii institut im. Krzhizhanovskogo Akademii nauk SSSR  
(for Vinter). 2. Glavnyy energetik Gor'kovskogo avtomobil'nogo  
zavoda im. Molotova (for Kukushkin). 3. Institut avtomatiki i tele-  
mekhaniki Akademii nauk SSSR (for Trapeznikov). 4. Chlen-korrespon-  
dent Akademii nauk SSSR (for Trapeznikov). 5. Leninakanges (for Bada-  
lyants). 6. Dnepropetrovskiy institut inzhenerov transporta (for Be-  
lichenko). 7. Kurakhovskaya gres (for Klapchuk). 8. Orekhovo-Zuyev-  
skaya tets (for Frantsuzov). 9. Vsesoyuznyy zaachnyy energeticheskii  
institut (for Tareyev and Magidson).

**TAREYEV, B.M., professor, doktor tekhnicheskikh nauk.**

In the scientific-technical society of the All-Union Institute for  
Correspondence Courses in Power Engineering. Elektrichestvo no.3:90  
Mr '54. (MLRA 7:4)

1. Predsedatel' NTO Vsesoyuznogo zaochnogo energeticheskogo instituta.  
(Power engineering--Study and teaching)

DROZDOV, N.G., professor, doktor tekhnicheskikh nauk; PRIVEZENTSEV, V.A., professor, doktor tekhnicheskikh nauk; KOMAROV, N.S., dotsent, kandidat tekhnicheskikh nauk; NIKULIN, N.V., dotsent, kandidat tekhnicheskikh nauk; SHUMSKIY, I.I., dotsent, kandidat tekhnicheskikh nauk; KREMLEVSKIY, P.A., kandidat tekhnicheskikh nauk; GEPP, A.P., inzhener; ALEKSANDROV, N.V., professor, doktor tekhnicheskikh nauk; TARBEYEV, B.M., professor, doktor tekhnicheskikh nauk; MYGENSEN, L.S., professor, doktor tekhnicheskikh nauk; STEPANOV, V.S., dotsent, kandidat tekhnicheskikh nauk; MAGIDSON, A.O., inzhener.

"Science of electrical materials." M.M.Mikhailov. Reviewed by N.G. Drozdov, and others. Elektrichestvo no.3:93-94 Mr.'54. (MLRA 7:4)

1. Moskovskiy energeticheskiy institut im. Molotova.
  2. Vsesoyuznyy zaachnyy energeticheskiy institut.
- (Electric insulators and insulation) (Electric conductors)

TAREYEV, B.M.

AID P - 663

Subject : USSR/Electricity

Card 1/1 Pub. 27 - 32/34

Author : Tareyev, B. M., Dr. of Tech. Sci., Prof., Chairman of the Scientific and Technical Society of the All-Union Power Engineering Correspondence Institute (VZEI)

Title : Scientific and Technical Society of the VZEI (Current News)

Periodical : Elektrichestvo, 9, 94, S 1954

Abstract : The 5th scientific and technical conference of the Institute was held in May 1954. 28 reports were discussed in the sections of the Institute.

Institution : VZEI (Scientific and Technical Society of the All-Union Power Engineering Correspondence Institute)

Submitted : No date

APPROVED FOR RELEASE: Thursday, September 26, 2002

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CIA-RDP86-00513R001755010007-5"

**BABIKOV, M.A.; VENIKOV, V.A.; DROZDOV, N.G.; PRIVEZANTSEV, V.A.; SOLOV'YEV,  
I.I.; TARBYEV, B.M.; NIKULIN, N.V.**

**Professor S.M.Bragin. Elektrichestvo no.12:82-83 D '54. (MLRA 7:11)  
(Bragin, Sergei Mikhailovich, 1894- )**



00513R001755010007-5  
Thursday, September 26, 2002 CIA-RDP86-00513R001755010007-5  
TAREYEV, Boris Mikhaylovich, laureat Stalinskoy premii, d-r tekhnicheskikh nauk; YEZHKOVA, V.V., redaktor; SKVORTSOV, I.M. tekhnicheskiiy redaktor.

[Electric engineering materials] Elektrotekhnicheskie materialy.  
Izd.5-oe perer. Moskva, Gos.energ.izd-vo, 1955. 256 p.(MLBA 8:10)  
(Electric engineering--Materials)

BOGORODITSKIY, N.P., PASYNKOV, V.V.; TARNEYEV, B.M.; REBINE, V.T., redaktor  
VORONETSKAYA, L.V., tekhnicheskii redaktor.

[Materials used in electric engineering] Elektrotekhnicheskie  
materialy. Izd-vo 302, pere. Moskva, Gos. energ. izd-vo, 1955.  
372 p. (MLRA 8:8)

(Electric engineering--Materials)

ARMYEV, B.M., professor, redaktor; YEZHKOV, V.V., redaktor; BORONIN, K.P.,  
tekhnicheskii redaktor

[Fluorine organic compounds used as electric insulating materials.  
Translations] Ftororganicheskie elektroizolyatsionnye materialy.

Perevody statei pod red. V.M.Tareeva. Moskva, Gos.energ. izd-vo,  
1957. 62 p. (MLRA 10:9)

(Electric insulators and insulation)

(Fluorine organic compounds)

GOLUBTSOVA, Valeriya Alekseyevna; TARNTYEV, B.M., red.; MEDVEDEV, L.Ya.,  
tekhn.red.

[History and prospects for the development of electric insulation  
materials] Istorii i perspektivy razvitiia elektroizolatsionnykh  
materialov. Moskva, Gos.energ.izd-vo, 1957. 76 p. 9 graphs

(MIRA 11:2)

(Electric insulators and insulation)

TARBYEV, B.M., prof., red.; BORUNOV, N.I., tekhn.red.

[Recommendation for the classification of materials for the insulation of electrical machinery and apparatus in relation to their thermal stability in service] Rekomendatsii dlia klassifikatsii materialov izoliatsii elektricheskikh mashin i apparatov po nagrevostoikosti. Publikatsiia No.85. Izd.1, 1957 g. Moskva, Gos.energ.izd-vo, 1958. 12 p. (MIRA 12:7)

1. World Power Conference. U.S.S.R. National Committee.  
(Electric insulators and insulation)

8(2)

PHASE I BOOK EXPLOITATION

SOV/1867

Tareyev, Boris Mikhaylovich, and David Mikhaylovich Kazarnovskiy

Ispytaniya elektroizolyatsionnykh materialov (Testing Electric Insulating Materials) Moscow, Gosenergoizdat, 1958. 208 p. 20,950 copies printed.

Ed.: V.I. Timokhina; Tech. Ed. G.I. Matveyev.

**PURPOSE:** This is a textbook for students in electrical engineering tekhnikums. It may be useful to students in power and electrical engineering vuzes and also for technicians in industrial plants and scientific-research institutes.

**COVERAGE:** The authors describe the most important and widespread methods of testing electric insulating materials. They explain the theoretical basis of the various methods and describe a number of testing instruments and auxiliary equipment. Special attention is devoted to new methods of testing with automatic measuring instruments and apparatus and methods for continuous testing without interrupting production or operating conditions. There are 70 references, 53 of which are Soviet, 10 English, 4 German, 2 Czech and 1 Italian.

Card 1/5

PHASE I BOOK EXPLOITATION

1079

Tareyev, Boris Mikhaylovich

Elektrotekhnicheskiye materialy (Electrical Materials) 6th ed., rev. Moscow, Gosenergoizdat, 1958. 271 p. 51,000 copies printed.

Ed.: Timokhina, V.I.; Tech. Ed.: Larionov, G.Ye.

**PURPOSE:** This book was approved as a textbook by the Scientific Council for Professional and Technical Education of the Main Administration of Labor Reserves under the USSR Council of Ministers, to be used in technical, trade, and railroad schools specializing in electrical engineering subjects. The book is also intended for technicians working in electric power systems, and plants and repair shops of the electrical and radio industries. It presumes a basic knowledge of physics, chemistry and electrical engineering.

**COVERAGE:** The book describes the properties, methods of testing, and behavior of the most important electrical materials (insulating materials, conductors, magnetic materials, cables, and various other materials.) No personalities are mentioned. There are 50 references, all Soviet.

Card 1/6

8(0)

PHASE I BOOK EXPLOITATION

SOV/2082

Elektroizolyatsionnyye materialy. ch. 1: Svoystva materialov (Electrical Insulating Materials. Pt. 1: Properties of Materials) Moscow, Gosenergoizdat, 1958. 460 p. (Series: Spravochnik po elektrotekhnicheskim materialam, t. 1) 30,000 copies printed.

Eds. (Title page): Yu.V. Koritskiy and B.M. Tareyev; Ed. (Inside book): I.V. Antik; Tech. Ed.: A.M. Fridkin; Eds. of series: K.A. Andrianov, N.P. Bogoroditskiy, Yu.V. Koritskiy and B.M. Tareyev.

PURPOSE: This book is intended as a reference guide and textbook for engineers and technicians of electrical-engineering and radio-engineering industrial organizations and plants, of electric power stations and substations, electrical repair workshops, laboratories and scientific research institutes.

COVERAGE: The publication "Reference Guide on Electrical Engineering Materials" consists of 2 volumes. The 1st volume "Electrical Insulating Materials" consists of 2 parts. This is the 1st part

Card 1/16



## Electrical Insulating Materials (Cont.)

SOV/2082

and deals with the properties of insulating materials. The editors state that the book may serve as a systematically arranged and condensed source of technical data on most of the electrical insulating materials, their characteristics, standard specifications, production and machining processes, quality testing methods, and their applications in electrical and radio engineering. It also describes electrical insulating products: capacitor insulation, cable insulation, insulators, insulating materials for electrical machines, transformers, apparatus, radio equipment, and electro-thermal apparatus. The book complies with recommendations of the Vsesoyuznoye byuro elektricheskoy izolatsii (All-Union Bureau of Electrical Insulating Materials) of MONITOE (VNITOE), issued in 1948. Each chapter is written by specialists and their names are listed in the Table of Contents. References are allotted separately to each chapter.

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## Electrical Insulating Materials (Cont.)

SOV/2082

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AUTHORS: Mikhaylov, M. M., Kostenko, M. P., SOV/05-58-7-28/32  
Neyman, L. R., Tareyev, B. M., Privezentsev, V. A., Zaytsev, I. A.  
Shramkov, Ye. G., Koritskiy, Yu. V.

TITLE: Professor V.T.Renne (Professor V.T. Renne) To His 50<sup>th</sup> Birthday  
(K 50-letiyu so dnya rozhdeniya)

PERIODICAL: Elektrichestvo, 1958, Nr 7, pp. 92 - 92 (USSR)

ABSTRACT: Vladimir Tikhonovich Renne was born on July 1<sup>st</sup>, 1908, in Kaluga. He graduated in 1930 from the Leningrad Polytechnical Institute and obtained the certificate of electrical engineer. Still a student, in 1928 he entered the telephone works "Krasnaya Zarya" and specialized in the field of electric technology. He organized a series of laboratories and directed them during several years. He worked out 15 types of paper-and mica condensers, thus industry being made independent of imports from abroad. He developed a series of cuprous oxide rectifiers for telephone equipment. He holds 8 patents. Since 1930 he teaches at the Leningrad Institute of Electromechanics (Leningradskiy elektromekhanicheskiy institut) and then at the Leningrad Institute of Electrical Engineering (Leningradskiy elektrotekhnicheskiy institut). From 1935 onwards he works at the Leningrad Polytechnical Institute (Leningradskiy

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Professor V.T.Renne. To His 50<sup>th</sup> Birthday

SOV/ 105-58-7-28/32

politekhnicheskii institut) department of electric insulation and cable engineering, where he has a full-time job since 1939. He organized a laboratory for electric technology and electric condensers and published several manuals. In 1938 - Docent, in 1939 - Candidate of Technical Sciences, in 1951 - Doctor of Technical Sciences, in 1952 - Professor. He published more than 140 papers on electric insulation, electric technology, and condenser design. He maintains close relations with industry and scientific research institutes. He advises them and carries out scientific work together with them. For a number of years he was secretary in the Section of Electric Insulation at the VNITOE and is at present Member of the Bureau of Electric Insulation at the Ts-ENTOEP. He is the scientific head of the Scientific Society of Students at the Faculty of Electromechanics of the Leningrad Polytechnical Institute (LPI). There is 1 photograph.

1. Electrical engineering--USSR

Card 2/2

TAREYEV, B.M., prof., red.; OZERSKIY, V.A., red.; VORONIN, K.P., tekhn.red.

[Effect of radiation on electric insulating materials] Voz-  
deistvie radioaktivnykh izlucheni na elektroizoliatsionnye  
materialy. Moskva, Gos.energ.izd-vo, 1959. 87 p. (MIRA 12:5)  
(Electric insulators and insulation) (Radioactivity)

TAREYEV, B.M.

15(6)

PHASE I BOOK EXPLOITATION

SOV/2903

Elektroizolyatsionnyye materialy. Ch. 2: Metody ispytaniya i primeneniya materialov (Electrical Insulating Materials. Pt. 2: Methods of Testing and of Application of the Materials) Moscow, Gosenergoizdat, 1959. 476 p. (Series: Spravochnik po elektrotekhnicheskim materialam, t. 2) Errata slip inserted. 30,000 copies printed.

Eds. (Title page): Yu.V. Koritskiy and B.M. Tareyev; Ed. (Inside book): I.V. Antik; Tech. Ed.: A.M. Fridkin; Editorial Board of Series: K.A. Andrianov, N.P. Bogoroditskiy, Yu.V. Koritskiy, and B.M. Tareyev.

PURPOSE: The book is intended for technical personnel of the electrical and radio industries, electric power stations and substations, electric maintenance and repair shops, laboratories and scientific research institutes.

COVERAGE: This is the second part of Volume I of "Electrical Engineering Materials" and contains, in concise and systematic form, data on various types of the most commonly used electrical insulating materials and their properties, standards, methods of processing, applicability in electrical and radio engineering, and methods of testing. The following types of insulation are also described: capacitor insulation, cable insulation, insulators and insulation for electrical machines, transformers, radio equipment and electrothermal devices. References

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Electrical Insulating Materials (Cont.)

follow some chapters.

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## Electrical Insulating Materials (Cont.)

SOV/2903

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SOV/143-59-5-5/19

9(3)  
AUTHORS:

Tareyev, B.M., Doctor of Technical Sciences, Professor, and Lerner, M.M., Engineer

TITLE:

An Investigation of the Forming Process of Aluminum Foils for Electrolytic Capacitors by Three-Phase Power Frequency Current

PERIODICAL:

Izvestiya vysshikh uchebnykh zavedeniy - Energetika, 1959, Nr 5, pp 36-45 (USSR)

ABSTRACT:

Studying the process of static forming of anode aluminum foils by three-phase alternating current will result in a more complete evaluation of the advantages of this method, which eventually will find industrial application. In this paper, the authors consider the connection between capacitance of the foil sample to be formed and the linear forming voltage and also the direct voltage component in the tanks. Figure 1 shows the connection of 3 tanks for three-phase static forming of foils. The authors discuss the time required for forming the foils, the final forming currents and the speed of oxide layer formation. They ✓

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An Investigation of the Forming Process of Aluminum Foils for  
Electrolytic Capacitors by Three-Phase Power Frequency Current

compare the quantity of power required for different forming methods. The forming of aluminum foils was performed in tanks with stainless steel electrodes (steel 1Kh18N9T). The electrolyte consisted of boric acid (100 gr/liter) and borax (0.5 gr/liter), and had a temperature of 80°C. As a rule, 60 min were required for the forming process. Samples of 0.08 mm thick aluminum foils, 3x5 cm, having a purity of 99.95%, were subjected to forming. The data in Table 1 show that the final currents hardly depend on the forming voltage with three-phase forming; on the average they amount to 1.22 milliamp/cm<sup>2</sup>. Experimental data confirmed that the final current density does not depend on the voltage. With three-phase forming the oxide layer is formed faster than with two-phase forming. If the foil formation is performed on direct current with the voltage  $U_{\text{d}}$  and by three-phase alternating current with the voltage  $U_{\text{a}}$ , with the aforementioned electrolyte composition, then an

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SOV/143-59-5-5/19  
An Investigation of the Forming Process of Aluminum Foils for  
Electrolytic Capacitors by Three-Phase Power Frequency Current

identical capacitance of the foil may be obtained under the condition  $U_0 = U_{\text{eff}}$ . The direct voltage component  $U_0$ , during forming under these conditions, is equal to half the effective value of the linear voltage. In the ultimate case, when the resistance of the electrolyte is equal to zero, and if the valve effect of the oxide layer is ideal,  $U_0$  is equal to the amplitude of the phase voltage. There are 2 diagrams, 9 graphs, 1 table and 3 Soviet references. This article was presented by the Katedra elektrozol'nykh i kabel'nykh tekhniki (The Chair of Electrical Insulation and Cable Engineering).  
ASSOCIATION: Vsesoyuznyy zaochnyy energeticheskiy institut (All-Union Correspondence Institute of Power Engineering)

SUBMITTED: December 28, 1958

Card 3/3

8 (3)

AUTHORS:

Tareyev, B. M., Doctor of Technical Sciences, Professor, Lerner, M. M., Engineer SOV/105-59-6-16/28

TITLE:

Continuous Alternating Current Oxidation of the Anode Foil of Electrolytic Condensers (Neprreryvnoye oksidirovaniye peremennym tokom anodnoy fol'gi dlya elektroliticheskikh kondensatorov)

PERIODICAL:

Elektrichestvo, 1959, Nr 6, pp 71 - 76 (USSR)

ABSTRACT:

This is an investigation of the continuous-band-motion oxidation of anode foil bands with single-, two-, and three-phase a.c. A counterconnection of the baths appears to be most convenient. The utilization of troughs of conventional construction for a.c. oxidation is possible only if the troughs are made of oxidation-resistant material, (as, for example, stainless steel 1Kh18N9Ti). The highest operational stability during oxidation is achieved if one foil is pulled through counter-connected baths (as shown in figure 3b). With respect to an equal load distribution on the transformers a three-phase oxidation is very interesting. It gives, similar as a two-phase oxidation, an oxide layer of high quality. The oxidation of anode foils by continuous band motion by means of a.c. and counterconnected baths avoids the rectification of the a.c.

Card 1/2

Continuous Alternating Current Oxidation of the  
Anode Foil of Electrolytic Condensers

SOV/105-59-6-16/28

and hence the energy losses connected with such a transformation. No short-circuits will occur, if the foil breaks, the  $\cos \varphi$  of the installation increases and the output also increases owing to the elimination of polarization at the electrodes. There are 7 figures, 1 table, and 7 Soviet references.

ASSOCIATION: Vsesoyuznyy zaochnyy energeticheskiy institut (All-Union  
Correspondence Institute of Power Engineering)

SUBMITTED: December 25, 1958

**TAREYEV, B.M., prof., doktor tekhn.nauk, otv.red.vypuska**

**[Dielectrics] Dielektriki. Moskva, 1960. 21 p. (Sborniki  
rekomenduemykh terminov, no.53). (MIRA 13:3)**

- 1. Akademiya nauk SSSR. Komitet tekhnicheskoy terminologii.  
(Dielectrics--Dictionaries)  
(Russian language--Dictionaries--Polyglot)**

ANDRIANOV, K.A., red.; BOGORODITSKIY, N.P., red.; KORITSKIY, Yu.V., red.;  
PASYNKOV, V.V., red.; TAREYEV, B.M., red.; SOBOLEVA, Ye.M.,  
tekhn.red.

[Handbook on electric engineering materials; in two volumes]  
Spravochnik po elektrotekhnicheskim materialam v dvukh tomakh.  
Moskva, Gos.energ.isd-vo. Vol.2. [Magnetic, conducting, semi-  
conductor and other materials] Magnitnye, provodnikovye,  
poluprovodnikovye i drugie materialy. Pod red. N.P.Bogoro-  
ditskogo i V.V.Pasynkova. 1960. 511 p. (MIRA 14:1)  
(Electric engineering--Materials)



TAREYEV, B.M.

2/103/60/000/07/225/057  
2007/2005

**ADDITIONAL INFORMATION**

Alexandrov, E. T. Laktionov, A. E. Bogdan, S. M. Gerasimov,  
I. I. Drosdov, E. G. Tarasov, B. M. Kozlov, V. P.  
Kozlov, A. M. Troitskiy, A. G. Labitskiy, G. P.  
Sidorov, E. V. and Others

71815

Professor V. A. Trilovskiyev. On his 60th birthday and the 35th anniversary of his scientific-pedagogical and engineering activity.

**PERIODICAL:** Elektrotechnik, 1960, No. 7, p. 94

[illegible]

**Professor V. A. Privetentsev. On His 60th Birthday and the 35th Anniversary of His Scientific-pedagogical and Engineering Activity**

3/105/60/008/07/-23/327  
2007/2005

He graduated in 1931, and obtained the degree of Doctor of Technical Sciences in 1932. From June 1931, he worked for 35 years at the second "Moshchinskii" ("Moshchinskii" Gorod) where he was a chief engineer between 1938 and 1945. From 1945 he worked as a chief engineer at the "Centralnyy nauchno-issledovatskiy KXP (Central Cable Laboratory KXP)" and as a deputy director for the scientific section of the All-Union Research Institute of Cable Engineering (VNIITKabel). He supervised the scientific research and development of cable engineering for 30 years. He supervised the rationalization of the Cable KXP. He supervised in the rationalization of department cable engineering for 3-10 kv, conducted the production of power cable, and cables with glass wool, capacitors, and enamel insulation. For 35 years he has been working at the KXP. At the KXP, he is supervising the work of post-graduate students. He wrote many books, handbooks on cable engineering, and more than 100 articles. For 15 years, he was the responsible editor of the scientific-technical periodical of cable engineering (Collection of the Scientific Papers and the KXP), conducted for 15 years the half-year scientific magazine "Kabel".

**Professor V. A. Prizemskiy. On His 60th Birthday and the 35th Anniversary of His Scientific-Pedagogical and Engineering Activity**

8/103/60/000/07/23/C27  
2007/2003

Scientific sector Minister, electrotechnical progress, Academy of Sciences of the USSR, and the Scientific and Technical Council at the Ministry of the Electrotechnical Industry, and was a member of the Presidium of the Electrotechnical Industry, and was a member of the All-Union Bureau of Electric Insulation for more than 15 years; later on, he participated in the work of the committees on electrotechnical and technological progress of the USSR (Commission on Electrotechnical and Technological Progress). There is 1 reference.

TAREYEV, B.M., doktor tekhn.nauk, prof.; LERNER, M.M., kand.tekhn.nauk

Concerning the replacement of copper with aluminum in the  
electric industry. Elektrichestvo no.10:78-82 0 '60. (MIRA 14:9)  
(Electric engineering--Materials)

CHILIKIN, M.G.; LARIONOV, A.N.; ANDRIANOV, K.A.; MESHKOV, V.V.;  
IONKIN, P.A.; ARKHIPOV, V.N.; PETROV, G.N.; BRAGIN, S.M.;  
PRIVEZENTSEV, V.A.; TAREYEV, B.M.

Professor N.G. Drozdov. Elektrichestvo no.10:90.0 '60.  
(MIRA 14:9)  
(Drozdov, Nikolai Gavrilovich, 1900-)

1. AREYEV, B.N.

9/05/80/000/001/000/000  
0012/0000

**AUTHOR:**

Raditsynskiy, A. P., Zhurav, V. N., Polov, A. I.,  
Sukhor, V. A., Zvezda, B. A., Glikin, E. G. and  
others

**TITLE:**

T. G. Zhurav, on the occasion of his 50th birthday and the  
50th anniversary of his graduation from the  
Pedagogical Institute

**PERIODICAL:**

Elektronika, 1960, No. 11, p. 94

**NOTE:** For 20 years Raditsynskiy Zhurav has directed the  
electrotechnical and experimental work in the  
Institute of Electrotechnical Science (IETS) (Department of Electrical  
Engineering at the Experimental Scientific Research Institute of Social-  
Engineering Machine Tools) which plays an important role in laying down the  
technical policy for the electrical equipment of machine tools and  
other machinery. He is the author of more than 45 published papers and  
articles in the field of electrical drive and control systems.  
He has delivered a great number of lectures at All-Union Technical

Conf. 1/2

**ABSTRACT:** His main studies deal with controllable electric drives  
involving electrical, dynamoelectric, magnetic, and semiconductor ampli-  
fiers, as well as electromechanical clutches of various types and improve-  
ments of low-voltage apparatus. His studies on theory and practice of  
comprehensive automation in machine building are noteworthy. In recent  
years, his team developed a series of new systems for the numerical con-  
trol of machine tools, extensively using electronic means, and the cal-  
culation technique. V. G. Zhurav's pedagogical activity dates back to  
1936, and at present he is teaching at the Technology Faculty of the  
Moscow State University (MSU). (All-Union Correspondence Institute of Power  
Engineering). There is 1 figure.

End 2/2

84600

S/181/60/002/010/023/051  
B019/B056

9.2110 (1043, 1081, 1145)

AUTHORS: Tareyev, B. M. and Lerner, M. M.

TITLE: The Theory of Unilateral Conductivity of an Oxide Film  
on Aluminum

PERIODICAL: Fizika tverdogo tela, 1960, Vol. 2, No. 10, pp. 2487-2492

TEXT: The present theory of unilateral conductivity of oxide films on aluminum describes satisfactorily the behavior of an oxidized sample immersed in an electrolyte. If, however, the sample is taken out of the electrolyte, this theory fails in the description of a number of its properties. This theory is especially not developed for electrolytic capacitors with solid electrolytes. The authors suggest a hypothesis that holds good for oxide films which are formed in weak electrolytes, if the former has a positive potential. In this hypothesis it is assumed that a p-n- junction exists, which is destroyed with the formation of an n-type semiconductor: 1) by removing the voltage from the sample, 2) by taking the sample out of the electrolyte, 3) by applying a negative

Card 1/2

84600

The Theory of Unilateral Conductivity of an  
Oxide Film on Aluminum

S/181/60/002/010/023/051  
B019/B056

potential to the sample relative to the electrolyte (in this case the defects are in the oxide film). On the basis of this hypothesis suggested by the authors, it is possible to explain the behavior of oxidized Al-samples in the following cases: 1) The voltage is removed from a sample dipped into an electrolyte. 2) A negative potential is applied to the sample relative to the electrolyte. 3) The sample taken out of the electrolyte is subjected to the action of various media and temperatures. 4) Onto the sample taken out of the electrolyte, a layer of p-type semiconductor or of metal is applied. There are 24 references: 3 Soviet, 11 US, 3 Dutch, 5 German, 1 Swiss, and 1 French.

SUBMITTED: August 29, 1959

Card 2/2

BOGORODITSKIY, Nikolay Petrovich; PASYNKOV, Vladimir Vasil'yevich;  
TAREYEV, Boris Mikhaylovich; RENNE, V.T., doktor tekhn.nauk, prof.,  
red.; ZHITNIKOVA, O.S., tekhn.red.

[Electric engineering materials] Elektrotekhnicheskie materialy.  
Izd.4., perer. Moskva, Gos.energ.izd-vo, 1961. 528 p. (MIRA 14:6)

1. Zaveduyushchiy kafedroy elektroizolyatsionnoy i kabel'noy  
tekhniki Leningradskogo politekhnicheskogo instituta im. M.I.Kalinina  
(for Renne).

(Electric engineering—Materials)

TAREYEV, B.M., laureat Stalinskoy premii, doktor tekhn. nauk, prof.;  
MAGIDSON, O.A., red.

[Fundamentals of the physics of dielectrics; lectures] Osnovy fiziki dielektrikov; lektsii. Moskva, Vses.zaochnyi energ. in-t. No.1.[Electrical conductivity of dielectrics] Elektroprovodnost' dielektrikov. Izd.4., perer. 1961. 46 p. (MIRA 15:7)  
(Dielectrics)



TAREYEV, B.M., prof., red.; BULGAKOV, V.A., red.; LARIONOV, G.Ye.,  
tekhn. red.

[Electric insulating materials with increased heat resistance]  
Elektroizoliatsionnye materialy povyshennoi nagrevostoikosti;  
sbornik perevodov statei. Moskva, Gosenergoizdat, 1961. 103 p.  
Translated from the English. (MIRA 16:5)  
(Electric insulators and insulation)

MIKHAYLOV, A.I., prof.; TAREYEV, B.M., prof.

[Scientific information in the field of electric and power engineering] Nauchnaya informatsiya v oblasti elektrotekhniki i energetiki; lektsiya. Moskva, Vses. zaachnyi energ. in-t, 1961. 17 p. (MIRA 16:12)

1. Direktor Vsesoyuznogo instituta nauchnoy i tekhnicheskoy informatsii (for Mikhaylov). 2. Zaveduyushchiy kafedroy elektroizolyatsionnoy i kabel'noy tekhniki Vsesoyuznogo za-  
ochnogo energeticheskogo instituta (for Tareyev).  
(Power engineering--Information services)

BRAGIN, S.M.; BUTAKOV, I.N.; KRASIN, A.K.; SOKOLOV, A.A.; STEKOL'NIKOV,  
I.S.; TAREYEV, B.M.; FIALKO, Ye.I.; CHILIKIN, M.G.

Fiftieth anniversary of the birth of Professor A.A.Vorob'ev.  
Elektrichestvo no.1:93 Ja '61. (MIRA 14:4)  
(Vorob'ev, Aleksandr Akimovich)

TAREYEV, B.M., doktor tekhn.nauk, prof.; LENER, M.M., kand.tekhn.nauk

Trends in the development of aluminum electrolytic capacitors  
abroad. Elektrichestvo no.5:81-84 My '61. (MIRA 14:9)  
(Electric capacitors)

37748

S/196/62/000/009/009/018  
E114/E184


9.2/10

AUTHORS: Lerner, M.M., and Tareyev, B.M.

TITLE: Single phase formation of anodic foil for capacitors  
using alternating current

PERIODICAL: Referativnyy zhurnal, Elektrotekhnika i energetika,  
no.9, 1962, 6, abstract 9 B28. (Tr. vses. zauch.  
energ. in-ta, no.18, 1961, 77-91)

TEXT: Static formation of foil in a single bath directly  
connected to an a.c. power supply was considered. Two cases were  
analyzed: 1) when the impedance of the foil  $|\bar{Z}_f|$  exceeds that  
of the bath  $|\bar{Z}_B|$ ; and 2) when  $|\bar{Z}_f|$  is of the same order of  
magnitude as, or much less than,  $|\bar{Z}_B|$ . Case 1 is possible if  
the bath is made of a material which is not affected by a.c.  
(for instance stainless steel). In this case, a large (reverse)  
current flows in the conducting direction of the oxide skin which  
is being formed, and more energy is required than when forming  
with d.c., or by other a.c. methods, and this, to some extent,  
impairs the quality of the oxide film because it is intensively  
Card 1/6



Single phase formation of anodic ... S/196/62/000/009/009/018  
E114/E184

heated during the conducting half cycles. At the same time, the voltage utilization factor  $K$ , which is the ratio of the voltage across the oxide film to the total voltage applied to the bath, is high - the whole voltage of the source of power is applied across the oxide film with the exception of voltage drop in the electrolyte. Case 2 is possible if the bath is made of a material susceptible to a.c. (for instance aluminium), and the surface area of the bath is about equal to the area of the foil (or is a little less). In case 2, the reverse currents flowing through the foil are much less than in case 1 because  $|Z_B| \geq |Z_Q|$ . This reduces the a.c. power consumption and the oxide film is of better quality because heating is less. In case 2,  $K$  is much lower, particularly when  $|Z_B| > |Z_Q|$ . Curves are given of capacitance and current as function of the time of a.c. or d.c. forming for case 1. The oxide film formation time counted from the moment when the current and the capacity cease to fall is about 15-20 mms for both a.c. and d.c. With a.c. the time of passage of ionic currents forming the oxide film is much less than the time of application of voltage.

Card 2/6

Single phase formation of anodic ... S/196/62/000/009/009/018  
E114/E184

while with d.c. both intervals are the same. With a.c. and a single bath, the oxide layer forms only during that part of the half cycle during which the current passes through the foil in the non-conducting direction for the oxide layer. The ionic current begins to pass through the oxide layer at an instant when the applied e.m.f. is greater than the back e.m.f. in the oxide film, which is proportional to its thickness. The authors call the time of passage of the ionic current  $\Delta t$ , 'the absolute time of formation'. Inasmuch as  $\Delta t$  is a function of time of the a.c. forming period, full absolute time  $\tau$  during all the periods can be calculated from the formula:

$$\tau = \bar{\Delta t} \cdot \frac{t_{\text{form}}}{T}, \text{ where}$$

$$\bar{\Delta t} = \frac{1}{t_{\text{form}}} \int_0^{t_{\text{form}}} \Delta t \, dt \quad \text{is the time of formation of the oxide}$$

layer,  $T$  - full period of the forming voltage.

Card 3/6

Single phase formation of anodic ... S/196/62/000/009/009/018  
E114/E184

If, to a first approximation, it is considered that the time function is linear

$$\Delta t = \frac{T}{2} \left( 1 - \frac{t}{t_{\text{form}}} \right)$$

then  $\tau = 5$  minutes for a.c. conditions compared with 20 minutes for d.c. Therefore, whilst a.c. is flowing the instantaneous density of ionic current should be somewhat greater than with d.c. Comparative curves are given plotting reverse capacitance against voltage for d.c. and a.c. In the range up to 160 volts the specimens are of the same capacitance if the effective voltage with a.c. is three quarters of the d.c. voltage (the forming takes place in aqueous solution 100 g/litre boric acid and 0.5 g/litre borax at a temperature of 80 °C.). In the second case, film formation was studied with various ratios of foil to bath surface area. It is shown that, as the bath area is reduced, the consumption of electric current decreases. The problem of comparing a.c. and d.c. processes is discussed. A.c. and d.c. can both be conducted in three ways: firstly, at

Card 4/6

X



Single phase formation of anodic ... S/196/62/000/009/009/018  
E114/E184

a constant current density; secondly, at constant voltage; and thirdly, mixed. However, not all these ways are suitable for comparing a.c. and d.c. processes. In the first way comparison is difficult because with a.c. not all of the current is used for the formation of the oxide layer. It has a considerable capacitative component, and the reverse current does not form the oxide at all. It is impracticable to utilize the third (mixed) way for comparison because it partially includes the first way. The most convenient is the second way - comparison at constant forming voltage. The choice of the equivalent voltages for a.c. and d.c. can be made from the requirements of creating the same capacitance of oxide layer - its most stable and simply measured characteristic. In this case, other conditions being equal, the a.c. voltage  $U$  is considered equivalent to a d.c. voltage  $U$ , if the capacitance of the samples being compared after formation is the same. 2 references.

Abstractor's remarks. The detailed analysis of the a.c. method shows that an aluminium bath whose surface is much greater than  
Card 5/6

Single phase formation of anodic ... S/196/62/000/009/009/018  
E114/E184

that of the foil cannot be included in case 1 to the same extent as the a.c. method with a stainless steel bath. Although with an aluminium bath of extensive surface  $|\bar{z}_B| \leq |\bar{z}_\phi|$  there is no sharp increase in the reverse current with a.c. under these conditions because both the bath and the foil have rectifying properties. Thus, the bath and the foil being formed in it comprise a system of two opposing electrolytic valves. The a.c. case with one aluminium bath of extensive surface was further investigated by the authors and practical confirmation was obtained of the possibility of the dynamic forming of an oxide layer using a.c. in industrial conditions in one bath, and in such conditions the oxide layer is of relatively high quality.

[Abstractor's note: Complete translation.]

PRIVEZENTSEV, Vladimir Alekseyevich; MAGIDSON, Abram Osipovich;  
TAREYEV, B.M., prof., doktor tekhn. nauk; YEMZHIN, V.V.,  
tekhn. red.

[Artificial and synthetic fibers and films for electrical  
insulation] Iskusstvennye i sinteticheskie volokna i plenki  
dlya elektricheskoi izoliatsii. Moskva, Gosenergoizdat,  
1962. 111 p. (Polimery v elektroizoliatsionnoi tekhnike,  
no.3) (MIRA 15:10)

(Electric insulators and insulation)  
(Textile fibers, Synthetic)

RENNÉ, V.T., doktor tekhn. nauk, prof.; TAREYEV, B.M., doktor tekhn.nauk, prof., red.

[Study of the relationship between the properties of condenser paper and the quality of paper condensers; manual for the course in "Technology and electric insulation"] Issledovanie svyazi mezhdu svoistvami kondensatornoi bumagi i kachestvom bumazhnykh kondensatorov; uchebnoe posobie po kursu "Tekhnologiya elektricheskoi izolatsii." Moskva, 1962. 29 p. (MIRA 17:5)

1. Moscow. Vsesoyuznyy zaochnyy energeticheskiy institut. Kafedra elektroizolyatsionnoy i kabel'noy tekhniki.

GAYLISH, Ye.A.; DROZDOV, N.G.; YEVSTROP'YEV, K.S.; KAZARNOVSKIY, D.M.;  
NEYMAN, L.R.; PASYNKOV, V.V.; PRIVEZENTSEV, V.A.; RENIE, V.T.;  
TAREYEV, B.M.

N.P. Bogoroditskii; on his sixtieth birthday and the thirty-fifth  
anniversary of his theoretical and educational work. Elektrichestvo  
no.7:87-88 J1 '62. (MIRA 15:7)

(Bogoroditskii, Nikolai Petrovich, 1902-)

TAREYEV, B.M., doktor tekhn.nauk, prof.; LERNER, M.M., kand.tekhn.nauk

Concerning L.L.Odynets' article "Efficiency of using a.c. for  
shaping plate foil in the manufacture of electrolytic condensers.  
Izv. vys. ucheb. zav.; energ. 5 no.2:112-113 F '62.

(MIRA 15:3)

(Condensers (Electricity))

TAREYEV, B.M., dr tehn. nauka [Tareyev, B.M.] (U.S.S.R.);  
LERNER, M.M., kand. tehn. nauka (U.S.S.R.); ILOVAJSKI, Pavle,  
inz. [translator]

Substituting aluminum for copper in electrical engineering.  
Elektroprivreda 15 no.4:170-176 Ap '62.

GRUBNIK, N.N.; TAREYEV, B.M., doktor tekhn. nauk, prof., red.

[Enamelled wires; a lecture] Emalirovannyye provoda; lektsiia.  
Moskva, Vsesoiuznyi zaokhnyi energ. in-t, 1963. 53 p.  
(MIRA 17:3)



SHVEDOVA, L.A.; TAREYEV, B.M., doktor tekhn. nauk, prof., red.

[Lectures on the course "Calculation and construction of electrical insulation"] Lektsii po kursu "Raschet i konstruirovaniye elektricheskoi izoliatsii" Moskva, Vses. za-  
ochnyi energeticheskii in-t. No.1. [Design of oil-filled  
entrances] Raschet maslonapolnennykh vvodov. 1963. 38 p.  
(MIRA 17:4)

KAZARNOVSKIY, David Mikhaylovich; TAREYEV, Boris Mikhaylovich;  
KUCHINSKIY, G.S., red.; SUBOLEVA, Ye.M., tekhn. red.

[Testing of electric insulating materials] Ispytania  
elektroizoliatsionnykh materialov. Moskva, Gosenergoiz-  
dat, 1963. 314 p. (MIRA 17:1)

BOGORODITSKIY, N.P.; VAVILOV, V.S.; VALEYEV, Kh.S.; DROZDOV, N.G.;  
KORITSKIY, Yu.V.; PRIVEZENTSEV, V.A.; RENNE, V.T.; TAREYEV, B.M.;  
YAMANOV, S.A.

B.M. Vul; on his 60th birthday and 35th anniversary of his  
scientific work. Elektrichestvo no.8:95 Ag '63. (MIRA 16:10)

YAMANOVA, L.V.; TAREYEV, B.M., doktor tekhn. nauk, prof., red.

[Electric condensers; lectures] Elektricheskie kondensatory; lektsii. Moskva, Vses. zaachnyi energ. in-t. No.1  
1964. 84 p. (MIRA 18:3)

TAREYEV, B.M., prof., laureat Stalinskoy premii, doktor tekhn. nauk

[Fundamentals of the physics of dielectrics; lectures] Osnovy  
fiziki dielektrikov; lektsii. Moskva, Vses. zaachnyi energ.  
in-t. No.1 - No.2. Izd.4., perer. 1962. 87 p.  
(MIRA 17:9)



101

1. The first part of the report is a summary of the work done during the past year. It includes a list of the projects completed and a brief description of the results obtained.

2. The second part of the report is a detailed description of the work done during the past year. It includes a list of the projects completed and a brief description of the results obtained.

3. The third part of the report is a list of the projects completed during the past year.

4. The fourth part of the report is a list of the projects completed during the past year. It includes a list of the projects completed and a brief description of the results obtained.

5. The fifth part of the report is a list of the projects completed during the past year.

6. The sixth part of the report is a list of the projects completed during the past year.

7. The seventh part of the report is a list of the projects completed during the past year.

LERNER, M.M., kand. tekhn. nauk, dots. MATSONASHVILI, B.N.,  
kand. fiz.-matem. nauk; RENNE, v.i., doktor tekhn. nauk,  
prof.; TAREYEV, B.M., doktor tekhn. nauk, prof., red.

[Electric engineering materials: electric condensers, wires,  
and cable] Elektrotekhnicheskie materialy, elektricheskie  
kondensatory, provoda i kabeli 1962-1963. Moskva, 1964.  
158 p. (MIRA 18:2)

1. Akademiya nauk SSSR. Institut nauchnoy informatsii.



GOROKHOV, P.K., kand. tekhn. nauk; GOR'KOVA, V.I., kand. tekhn. nauk;  
PAVLOV, L.I., kand. tekhn. nauk; SERGEYEV, N.P.; TAREYEV,  
B.M., doktor tekhn. nauk, prof.; SHMOTKIN, I.S.; KURBATOVA, N.S.  
kand. tekhn. nauk, prof.; red.; CHESKIS, Z.B., red.

[French-Russian electrical engineering dictionary] Frantsuzsko-  
russkii elektrotekhnicheskii slovar'. Pod red. N.S.Kurbatovoi  
i B.M.Tareeva. Moskva, Sovetskaya entsiklopediya, 1965. 720 p.  
(MIRA 18:12)

BOGORODITSKIY, Nikolay Petrovich; VOLOKOBINSKIY, Yuriy Mikhaylovich;  
VOROB'YEV, Aleksandr Akimovich; TAREYEV, Boris Mikhaylovich;  
RENNE, V.F., retsenzent; VODOP'YANOV, K.K., retsenzent;  
KAZARNOVSKIY, D.M., nauchn. red.; PAVLOVA, L.S., red.

[Theory of dielectrics] Teoriya dielektrikov. Moskva,  
Energia, 1965. 344 p. (MIRA 18:12)

BESSONOV, L.A.; BABAKOV, N.A., prof., retsenzent; KOLOBKOV, D.S.,  
prof., retsenzent; TAREYEV, B.M., prof., doktor tekhn.  
nauk retsenzent

[Principles of graph theory] Osnovy teorii grafov; ucheb-  
noe posobie. Moskva, Vses. zaachnyi energ. in-t, 1964. 48 p.  
(MIRA 19:1)

SHVEDOVA, L.A.; TAREYEV, B.M., doktor tekhn. nauk prof., red.

[Manual on a course in "Calculation and design of electrical insulation"] Uchebnoe posobie po kursu "Raschet i konstruirovaniye elektricheskoi izoliatsii. Moskva, Vses. zaachnyi energ. in-t. No.2. 1964. 74 p.  
(MIRA 19:1)

APROSINA, Z.G., kand. med. nauk; AFANAS'YEVA, K.A., kand. med. nauk;  
AKHREM-AKHREMOVICH, R.M., prof.; BLYUGER, A.F., doktor med.  
nauk; BONDAR', Z.A., prof.; VASILENKO, V.Kh., prof.; KIKODZE,  
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11(1); 26(4)

PHASE I BOOK EXPLOITATION

SOV/3043

Tareyev, Vladimir Mikhaylovich, Doctor of Technical Sciences, Professor

Spravochnik po teplovomu raschetu rabochego protsessa dvigateley vnutrennego sgoraniya (Handbook on Thermal Calculations for Working Processes of Internal Combustion Engines) Moscow, Izd-vo "Rechnoy Transport", 1959. 403 p. Errata slip inserted. 8,500 copies printed.

Reviewer: I. N. Nigmatulin, Doctor of Technical Sciences; Ed. of Publishing House: Z. V. Shlennikova; Tech. Ed.: V. A. Bodrova.

PURPOSE: The book is intended for students of schools of higher technical education, aspirants, and technical personnel of research institutes and design bureaus.

COVERAGE: The book deals with basic calculations related to the thermal efficiency of internal combustion engines. The first part treats the theoretical principles underlying such calculations. It includes the theory, design, and operation of internal combustion engines. The principal efficiency standards and the values of respective coefficients are determined. The second part discusses ten main types of engines and demonstrates how

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Handbook on Thermal Calculations (Cont.)

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efficiency coefficients are calculated. The engines discussed differ in purpose, type of fuel, number of strokes, degree of compression, type of scavenging and supercharging or its absence, and speed. Particular attention is paid to calculation methods developed by V. I. Grinevetskiy. The contributions of Professors N. R. Briling, M. M. Maslennikov, and A. S. Orlin to the study of internal combustion engines are mentioned. There are 38 references, all Soviet.

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(MIRA 14:9)

(Gas and oil engines)



Elektrotekhnicheskiye materialy

Ch. 9 Conducting Materials  
basic data, tre

9 Conducting Materials  
Copper: basic data, treatment, brass, data on wires.  
Aluminum: basic data, Aldrey type.  
Invar: basic data, treatment "bimetal", data on wires.

Copper: basic data, treatment, Aldrey type.  
Aluminum, basic data, Aldrey type.  
Steel, characteristics, wire manufacture "bimetal", data.  
Tungsten: treatment, basic data; molybdenum,

Aluminum, basic data; alloys, basic data; bismuth, basic data;  
Steel, characteristics, wire manufacture "bimetal", basic data;  
Others: Tungsten: treatment, basic data; molybdenum,  
platinum and mercury, basic data.  
Resistance alloys: constantan, basic data;  
"hard" alloys: "hard" their basic data.

Others: Tungsten: basic data.  
platinum and mercury, basic data.  
High resistance alloys: constantan, basic data;  
manganin, nichrome, "Fechrale" and their basic data  
brushes, carbon and graphite, "GOST" stan

High resistance alloys: constantan, manganin, nichrome, "Pechrale" and their basic data.  
Carbon: brushes, carbon and graphite, "GOST" standards, basic data, table on p. 232.

basic data, table on p.  
Ch. 10 Insulated Cables  
for windings:

10 Insulated Cables  
Wires for windings: basic data, types, tables on

Wires for windings. Same  
pp. 235, 236, 239.  
Cables: diagrams, basic data, "GOST" standards,  
"vinflex" and

Power cables: diagrams, basic data, "vinyflex" and research of S. M. Bragin mentioned; "vinyflex" and "metaltyn" developed by Andrianov and Ushakov; types of cables and wires: SK, SG, SA, SB, OSB and OSK listed, basic data given; a score of names of scientists developing research on wires and cables is attached.

Ch. 11 Magnetic Materials

11 Magnetic Materials  
General information: brief review of achievements.

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## Elektrotekhnicheskiye materialy

Pages

Laminated steel "GOST" standards, basic data, types, table on p. 254.

Various magnetic materials: permalloy, "alsifer" developed by A. S. Zaymovskiy, basic data; magneto-di-electrics, developed by A. S. Zaymovskiy, N. N. Shol'ts, L. I. Rabkin, V. S. Yevseyev for super high frequencies, basic data.

Materials for permanent magnets: alloy types, basic data, table on p. 258.

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### Ch. 12 Various Materials

Lead: basic data, types.

Soldering materials: soft and hard tin, types and table on p. 262, compounds with copper, silver, zinc, cadmium, phosphorus, aluminum, fusing agents: colophony, chlorine, fluorine, etc.; compounds with sodium, potassium, zinc and lithium.

Cement, putty, paste, glue: Portland cement types, according to "GOST" standards; gypsum, lead monoxide and glycerine (gletoglycerine); "ELSI" paste, composition; carbinol glue, composition, also used with nitrous acid,

## Elektrotekhnicheskiye materialy

developed by I. P. Nazarov and based on synthetic rubber;  
glues BF-2 and BF-4 made of synthetic resin and alcohol.

Bimetals: general information, basic data, properties.

Materials for thermo-couples: "copel", "alumel" and  
"chromel", basic data.

Thermo color films (temperature recorders), containing  
mercury, silver, copper.

Storage battery electrolytes, basic data, "GOST" stand-  
ards; alkali electrolytes, basic data, "GOST" standards,  
and process.

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Facilities: Names of Russian scientists listed in Table of  
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May 52

USSR/Electricity - Personalities

"Professor N. P. Bogoroditskiy, in Connection With His 50th Birthday." P. I. Skotnikov, A. F. Alabshev, S. Ya. Sokolov, A. A. Vavilov, V. V. Pasynkov, B. M. Tareyev

"Elektrichestvo" No 5, p 88

Reviews main features of professional life of Nikolay Petrovich Bogoroditskiy, born 20 May 02 in Tashkent. His principal interest has been development of h-f dielectrics. Between 1933 and 1942 he developed the now widely-used radio materials tikond, micalex, h-f glass, radio porcelain, and ultra-porcelain. Affiliations include Military Elec Eng Acad imeni Budenny (1933 - 1942) and a large plant laboratory (where he produced a number of inventions) during World War II. He has published a number of articles in journals, books, and textbooks. He received three Stalin Prizes: for an invention in field of ceramics(1942); for textbook "Electrical Engineering Materials"(1952); and for development and organization of mass production of parts for radio equipment (1952).

PA 240T58

TAREYEV, B. M.

USSR/Electricity - Education

Jun 53

"Correspondence-School Advanced Training of Graduate Engineers," Prof B.M. Tareyev, Dr Tech Sci; Engr A.O. Magidson, All-Union Corresp Power Eng Inst (VZEI)

Elektrichestvo, No 6, pp 57-59

Describes organization of correspondence-school advanced training for graduate power engs on basis of experience of VZEI in Moscow. Lists, discusses subject matter of projects recently completed for advanced training with VZEI by 8 persons from 8 different places (including Leninakan, Sochi, Taganrog). Submitted 22 Jan 53.

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1. Energeticheskii institut im. Krzhizhanovskogo Akademii nauk SSSR  
(for Vinter). 2. Glavnyy energetik Gor'kovskogo avtomobil'nogo  
zavoda im. Molotova (for Kukushkin). 3. Institut avtomatiki i tele-  
mekhaniki Akademii nauk SSSR (for Trapeznikov). 4. Chlen-korrespon-  
dent Akademii nauk SSSR (for Trapeznikov). 5. Leninakanges (for Bada-  
lyants). 6. Dnepropetrovskiy institut inzhenerov transporta (for Be-  
lichenko). 7. Kurakhovskaya gres (for Klapchuk). 8. Orekhovo-Zuyev-  
skaya tets (for Frantsuzov). 9. Vsesoyuznyy zaachnyy energeticheskii  
institut (for Tareyev and Magidson).



**TAREYEV, B.M.,** professor, doktor tekhnicheskikh nauk.

In the scientific-technical society of the All-Union Institute for  
Correspondence Courses in Power Engineering. Elektrichestvo no.3:90  
Mr '54. (MLRA 7:4)

1. Predsedatel' NTO Vsesoyuznogo zaonchnogo energeticheskogo instituta.  
(Power engineering--Study and teaching)

DROZDOV, N.G., professor, doktor tekhnicheskikh nauk; PRIVEZENTSEV, V.A., professor, doktor tekhnicheskikh nauk; KOMAROV, N.S., dotsent, kandidat tekhnicheskikh nauk; NIKULIN, N.V., dotsent, kandidat tekhnicheskikh nauk; SHUMSKIY, I.I., dotsent, kandidat tekhnicheskikh nauk; KREMLEVSKIY, P.A., kandidat tekhnicheskikh nauk; GEPP, A.P., inzhener; ALEKSANDROV, N.V., professor, doktor tekhnicheskikh nauk; TARBYEV, B.M., professor, doktor tekhnicheskikh nauk; MYGENSEN, L.S., professor, doktor tekhnicheskikh nauk; STEPANOV, V.S., dotsent, kandidat tekhnicheskikh nauk; MAGIDSON, A.O., inzhener.

"Science of electrical materials." M.M.Mikhailov. Reviewed by N.G. Drozdov, and others. Elektrichestvo no.3:93-94 Mr.'54. (MLRA 7:4)

1. Moskovskiy energeticheskiy institut im. Molotova. 2. Vsesoyuznyy zaochnyy energeticheskiy institut.  
(Electric insulators and insulation) (Electric conductors)

TAREYEV, B.M.

AID P - 663

Subject : USSR/Electricity

Card 1/1 Pub. 27 - 32/34

Author : Tareyev, B. M., Dr. of Tech. Sci., Prof., Chairman of the Scientific and Technical Society of the All-Union Power Engineering Correspondence Institute (VZEI)

Title : Scientific and Technical Society of the VZEI (Current News)

Periodical : Elektrichestvo, 9, 94, S 1954

Abstract : The 5th scientific and technical conference of the Institute was held in May 1954. 28 reports were discussed in the sections of the Institute.

Institution : VZEI (Scientific and Technical Society of the All-Union Power Engineering Correspondence Institute)

Submitted : No date

APPROVED FOR RELEASE: Thursday, September 26, 2002

CIA-RDP86-00513R001755010007-5  
CIA-RDP86-00513R001755010007-5"

**FAREYEV, B.M.**  
**BABIKOV, M.A.; VENIKOV, V.A.; DROZDOV, N.G.; PRIVEZANTSEV, V.A.; SOLOV'YEV,**  
**I.I.; TAREYEV, B.M.; NIKULIN, N.V.**

**Professor S.M.Bragin. Elektrichestvo no.12:82-83 D '54. (MLRA 7:11)**  
**(Bragin, Sergei Mikhailovich, 1894- )**

00513R001755010007-5  
Thursday, September 26, 2002 CIA-RDP86-00513R001755010007-5  
TAREYEV, Boris Mikhaylovich, laureat Stalinskoy premii, d-r tekhnicheskikh nauk; YEZHKOVA, V.V., redaktor; SKVORTSOV, I.M. tekhnicheskiiy redaktor.

[Electric engineering materials] Elektrotekhnicheskie materialy.  
Izd. 5-oe perer. Moskva, Gos.energ.izd-vo, 1955. 256 p. (MLBA 8:10)  
(Electric engineering--Materials)

BOGORODITSKIY, N.P., PASYNKOV, V.V.; TARNEYEV, B.M.; REBINE, V.T., redaktor  
VORONETSKAYA, L.V., tekhnicheskii redaktor.

[Materials used in electric engineering] Elektrotekhnicheskie  
materialy. Izd-vo 302, pere. Moskva, Gos. energ. izd-vo, 1955.  
372 p. (MLRA 8:8)

(Electric engineering--Materials)

ARMYEV, B.M., professor, redaktor; YEZHKOV, V.V., redaktor; BORONIN, K.P.,  
tekhnicheskii redaktor

[Fluorine organic compounds used as electric insulating materials.  
Translations] Ftororganicheskie elektroizolyatsionnye materialy.

Perevody statei pod red. V.M.Tareeva. Moskva, Gos.energ. izd-vo,  
1957. 62 p.

(MLRA 10:9)

(Electric insulators and insulation)

(Fluorine organic compounds)

GOLUBTSOVA, Valeriya Alekseyevna; TARNTYEV, B.M., red.; MEDVEDEV, L.Ya.,  
tekhn.red.

[History and prospects for the development of electric insulation  
materials] Istoriia i perspektivy razvitiia elektroizolatsionnykh  
materialov. Moskva, Gos.energ.izd-vo, 1957. 76 p. 9 graphs

(MIRA 11:2)

(Electric insulators and insulation)



TARBYEV, B.M., prof., red.; BORUNOV, N.I., tekhn.red.

[Recommendation for the classification of materials for the insulation of electrical machinery and apparatus in relation to their thermal stability in service] Rekomendatsii dlia klassifikatsii materialov izoliatsii elektricheskikh mashin i apparatov po nagrevostoikosti. Publikatsiia No.85. Izd.1, 1957 g. Moskva, Gos.energ.izd-vo, 1958. 12 p. (MIRA 12:7)

1. World Power Conference. U.S.S.R. National Committee.  
(Electric insulators and insulation)

8(2)

PHASE I BOOK EXPLOITATION

SOV/1867

Tareyev, Boris Mikhaylovich, and David Mikhaylovich Kazarnovskiy

Ispytaniya elektroizolyatsionnykh materialov (Testing Electric Insulating Materials) Moscow, Gosenergoizdat, 1958. 208 p. 20,950 copies printed.

Ed.: V.I. Timokhina; Tech. Ed. G.I. Matveyev.

**PURPOSE:** This is a textbook for students in electrical engineering tekhnikums. It may be useful to students in power and electrical engineering vuzes and also for technicians in industrial plants and scientific-research institutes.

**COVERAGE:** The authors describe the most important and widespread methods of testing electric insulating materials. They explain the theoretical basis of the various methods and describe a number of testing instruments and auxiliary equipment. Special attention is devoted to new methods of testing with automatic measuring instruments and apparatus and methods for continuous testing without interrupting production or operating conditions. There are 70 references, 53 of which are Soviet, 10 English, 4 German, 2 Czech and 1 Italian.

Card 1/5

PHASE I BOOK EXPLOITATION

1079

Tareyev, Boris Mikhaylovich

Elektrotekhnicheskiye materialy (Electrical Materials) 6th ed., rev. Moscow, Gosenergoizdat, 1958. 271 p. 51,000 copies printed.

Ed.: Timokhina, V.I.; Tech. Ed.: Larionov, G.Ye.

**PURPOSE:** This book was approved as a textbook by the Scientific Council for Professional and Technical Education of the Main Administration of Labor Reserves under the USSR Council of Ministers, to be used in technical, trade, and railroad schools specializing in electrical engineering subjects. The book is also intended for technicians working in electric power systems, and plants and repair shops of the electrical and radio industries. It presumes a basic knowledge of physics, chemistry and electrical engineering.

**COVERAGE:** The book describes the properties, methods of testing, and behavior of the most important electrical materials (insulating materials, conductors, magnetic materials, cables, and various other materials.) No personalities are mentioned. There are 50 references, all Soviet.

Card 1/6

8(0)

PHASE I BOOK EXPLOITATION

SOV/2082

Elektroizolyatsionnyye materialy. ch. 1: Svoystva materialov (Electrical Insulating Materials. Pt. 1: Properties of Materials) Moscow, Gosenergoizdat, 1958. 460 p. (Series: Spravochnik po elektrotekhnicheskim materialam, t. 1) 30,000 copies printed.

Eds. (Title page): Yu.V. Koritskiy and B.M. Tareyev; Ed. (Inside book): I.V. Antik; Tech. Ed.: A.M. Fridkin; Eds. of series: K.A. Andrianov, N.P. Bogoroditskiy, Yu.V. Koritskiy and B.M. Tareyev.

PURPOSE: This book is intended as a reference guide and textbook for engineers and technicians of electrical-engineering and radio-engineering industrial organizations and plants, of electric power stations and substations, electrical repair workshops, laboratories and scientific research institutes.

COVERAGE: The publication "Reference Guide on Electrical Engineering Materials" consists of 2 volumes. The 1st volume "Electrical Insulating Materials" consists of 2 parts. This is the 1st part

Card 1/16

## Electrical Insulating Materials (Cont.)

SOV/2082

and deals with the properties of insulating materials. The editors state that the book may serve as a systematically arranged and condensed source of technical data on most of the electrical insulating materials, their characteristics, standard specifications, production and machining processes, quality testing methods, and their applications in electrical and radio engineering. It also describes electrical insulating products: capacitor insulation, cable insulation, insulators, insulating materials for electrical machines, transformers, apparatus, radio equipment, and electro-thermal apparatus. The book complies with recommendations of the Vsesoyuznoye byuro elektricheskoy izolatsii (All-Union Bureau of Electrical Insulating Materials) of MONITOE (VNITOE), issued in 1948. Each chapter is written by specialists and their names are listed in the Table of Contents. References are allotted separately to each chapter.

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## Electrical Insulating Materials (Cont.)

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## Electrical Insulating Materials (Cont.)

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Card 14/16

AUTHORS: Mikhaylov, M. M., Kostenko, M. P., SOV/05-58-7-28/32  
Neyman, L. R., Tareyev, B. M., Privezentsev, V. A., Zaytsev, I. A.  
Shramkov, Ye. G., Koritskiy, Yu. V.

TITLE: Professor V.T.Renne (Professor V.T. Renne) To His 50<sup>th</sup> Birthday  
(K 50-letiyu so dnya rozhdeniya)

PERIODICAL: Elektrichestvo, 1958, Nr 7, pp. 92 - 92 (USSR)

ABSTRACT: Vladimir Tikhonovich Renne was born on July 1<sup>st</sup>, 1908, in Kaluga. He graduated in 1930 from the Leningrad Polytechnical Institute and obtained the certificate of electrical engineer. Still a student, in 1928 he entered the telephone works "Krasnaya Zarya" and specialized in the field of electric technology. He organized a series of laboratories and directed them during several years. He worked out 15 types of paper-and mica condensers, thus industry being made independent of imports from abroad. He developed a series of cuprous oxide rectifiers for telephone equipment. He holds 8 patents. Since 1930 he teaches at the Leningrad Institute of Electromechanics (Leningradskiy elektromekhanicheskiy institut) and then at the Leningrad Institute of Electrical Engineering (Leningradskiy elektrotekhnicheskiy institut). From 1935 onwards he works at the Leningrad Polytechnical Institute (Leningradskiy

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Professor V.T.Renne. To His 50<sup>th</sup> Birthday

SOV/ 105-58-7-28/32

politekhnicheskii institut) department of electric insulation and cable engineering, where he has a full-time job since 1939. He organized a laboratory for electric technology and electric condensers and published several manuals. In 1938 - Docent, in 1939 - Candidate of Technical Sciences, in 1951 - Doctor of Technical Sciences, in 1952 - Professor. He published more than 140 papers on electric insulation, electric technology, and condenser design. He maintains close relations with industry and scientific research institutes. He advises them and carries out scientific work together with them. For a number of years he was secretary in the Section of Electric Insulation at the VNITOE and is at present Member of the Bureau of Electric Insulation at the Ts-ENTOEP. He is the scientific head of the Scientific Society of Students at the Faculty of Electromechanics of the Leningrad Polytechnical Institute (LPI). There is 1 photograph.

1. Electrical engineering--USSR

Card 2/2

TAREYEV, B.M., prof., red.; OZERSKIY, V.A., red.; VORONIN, K.P., tekhn.red.

[Effect of radiation on electric insulating materials] Voz-  
deistvie radioaktivnykh izlucheni na elektroizoliatsionnye  
materialy. Moskva, Gos.energ.izd-vo, 1959. 87 p. (MIRA 12:5)  
(Electric insulators and insulation) (Radioactivity)

TAREYEV, B.M.

15(6)

PHASE I BOOK EXPLOITATION

SOV/2903

Elektroizolyatsionnyye materialy. Ch. 2: Metody ispytaniya i primeneniya materialov (Electrical Insulating Materials. Pt. 2: Methods of Testing and of Application of the Materials) Moscow, Gosenergoizdat, 1959. 476 p. (Series: Spravochnik po elektrotekhnicheskim materialam, t. 2) Errata slip inserted. 30,000 copies printed.

Eds. (Title page): Yu.V. Koritskiy and B.M. Tareyev; Ed. (Inside book): I.V. Antik; Tech. Ed.: A.M. Fridkin; Editorial Board of Series: K.A. Andrianov, N.P. Bogoroditskiy, Yu.V. Koritskiy, and B.M. Tareyev.

PURPOSE: The book is intended for technical personnel of the electrical and radio industries, electric power stations and substations, electric maintenance and repair shops, laboratories and scientific research institutes.

COVERAGE: This is the second part of Volume I of "Electrical Engineering Materials" and contains, in concise and systematic form, data on various types of the most commonly used electrical insulating materials and their properties, standards, methods of processing, applicability in electrical and radio engineering, and methods of testing. The following types of insulation are also described: capacitor insulation, cable insulation, insulators and insulation for electrical machines, transformers, radio equipment and electrothermal devices. References

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Electrical Insulating Materials (Cont.)

follow some chapters.

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## Electrical Insulating Materials (Cont.)

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Card ~~3/11~~

9(3)  
AUTHORS: Tareyev, B.M., Doctor of Technical Sciences, Professor, and Lerner, M.M., Engineer SOV/143-59-5-5/19

TITLE: An Investigation of the Forming Process of Aluminum Foils for Electrolytic Capacitors by Three-Phase Power Frequency Current

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy - Energetika, 1959, Nr 5, pp 36-45 (USSR)

ABSTRACT: Studying the process of static forming of anode aluminum foils by three-phase alternating current will result in a more complete evaluation of the advantages of this method, which eventually will find industrial application. In this paper, the authors consider the connection between capacitance of the foil sample to be formed and the linear forming voltage and also the direct voltage component in the tanks. Figure 1 shows the connection of 3 tanks for three-phase static forming of foils. The authors discuss the time required for forming the foils, the final forming currents and the speed of oxide layer formation. They ✓

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SOV/143-59-5-5/19

An Investigation of the Forming Process of Aluminum Foils for  
Electrolytic Capacitors by Three-Phase Power Frequency Current

compare the quantity of power required for different forming methods. The forming of aluminum foils was performed in tanks with stainless steel electrodes (steel 1Kh18N9T). The electrolyte consisted of boric acid (100 gr/liter) and borax (0.5 gr/liter), and had a temperature of 80°C. As a rule, 60 min were required for the forming process. Samples of 0.08 mm thick aluminum foils, 3x5 cm, having a purity of 99.95%, were subjected to forming. The data in Table 1 show that the final currents hardly depend on the forming voltage with three-phase forming; on the average they amount to 1.22 milliamp/cm<sup>2</sup>. Experimental data confirmed that the final current density does not depend on the voltage. With three-phase forming the oxide layer is formed faster than with two-phase forming. If the foil formation is performed on direct current with the voltage  $U_{\text{d}}$  and by three-phase alternating current with the voltage  $U_{\text{a}}$ , with the aforementioned electrolyte composition, then an

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SOV/143-59-5-5/19  
An Investigation of the Forming Process of Aluminum Foils for  
Electrolytic Capacitors by Three-Phase Power Frequency Current

identical capacitance of the foil may be obtained under the condition  $U_0 = U_{\text{eff}}$ . The direct voltage component  $U_0$ , during forming under these conditions, is equal to half the effective value of the linear voltage. In the ultimate case, when the resistance of the electrolyte is equal to zero, and if the valve effect of the oxide layer is ideal,  $U_0$  is equal to the amplitude of the phase voltage. There are 2 diagrams, 9 graphs, 1 table and 3 Soviet references. This article was presented by the Katedra elektrozol'nykh i kabel'nykh tekhniki (The Chair of Electrical Insulation and Cable Engineering).

ASSOCIATION: Vsesoyuznyy zaochnyy energeticheskiy institut (All-Union Correspondence Institute of Power Engineering)

SUBMITTED: December 28, 1958

Card 3/3



8 (3)

AUTHORS:

Tareyev, B. M., Doctor of Technical Sciences, Professor, Lerner, M. M., Engineer SOV/105-59-6-16/28

TITLE:

Continuous Alternating Current Oxidation of the Anode Foil of Electrolytic Condensers (Neprreryvnoye oksidirovaniye peremennym tokom anodnoy fol'gi dlya elektroliticheskikh kondensatorov)

PERIODICAL:

Elektrichestvo, 1959, Nr 6, pp 71 - 76 (USSR)

ABSTRACT:

This is an investigation of the continuous-band-motion oxidation of anode foil bands with single-, two-, and three-phase a.c. A counterconnection of the baths appears to be most convenient. The utilization of troughs of conventional construction for a.c. oxidation is possible only if the troughs are made of oxidation-resistant material, (as, for example, stainless steel 1Kh18N9Ti). The highest operational stability during oxidation is achieved if one foil is pulled through counter-connected baths (as shown in figure 3b). With respect to an equal load distribution on the transformers a three-phase oxidation is very interesting. It gives, similar as a two-phase oxidation, an oxide layer of high quality. The oxidation of anode foils by continuous band motion by means of a.c. and counterconnected baths avoids the rectification of the a.c.

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Continuous Alternating Current Oxidation of the  
Anode Foil of Electrolytic Condensers

SOV/105-59-6-16/28

and hence the energy losses connected with such a transformation. No short-circuits will occur, if the foil breaks, the  $\cos \varphi$  of the installation increases and the output also increases owing to the elimination of polarization at the electrodes. There are 7 figures, 1 table, and 7 Soviet references.

ASSOCIATION: Vsesoyuznyy zaochnyy energeticheskiy institut (All-Union  
Correspondence Institute of Power Engineering)

SUBMITTED: December 25, 1958

**TAREYEV, B.M., prof., doktor tekhn.nauk, otv.red.vypuska**

**[Dielectrics] Dielektriki. Moskva, 1960. 21 p. (Sborniki  
rekomenduemykh terminov, no.53). (MIRA 13:3)**

- 1. Akademiya nauk SSSR. Komitet tekhnicheskoy terminologii.  
(Dielectrics--Dictionaries)  
(Russian language--Dictionaries--Polyglot)**

ANDRIANOV, K.A., red.; BOGORODITSKIY, N.P., red.; KORITSKIY, Yu.V., red.;  
PASYNKOV, V.V., red.; TAREYEV, B.M., red.; SOBOLEVA, Ye.M.,  
tekhn.red.

[Handbook on electric engineering materials; in two volumes]  
Spravochnik po elektrotekhnicheskim materialam v dvukh tomakh.  
Moskva, Gos.energ.isd-vo. Vol.2. [Magnetic, conducting, semi-  
conductor and other materials] Magnitnye, provodnikovye,  
poluprovodnikovye i drugie materialy. Pod red. N.P.Bogoro-  
ditskogo i V.V.Pasynkova. 1960. 511 p. (MIRA 14:1)  
(Electric engineering--Materials)

TAREYEV, B.M.

Card 3/3

TAREYEV, B.M., doktor tekhn.nauk, prof.; LERNER, M.M., kand.tekhn.nauk

Concerning the replacement of copper with aluminum in the  
electric industry. Elektrichestvo no.10:78-82 0 '60. (MIRA 14:9)  
(Electric engineering--Materials)

CHILIKIN, M.G.; LARIONOV, A.N.; ANDRIANOV, K.A.; MESHKOV, V.V.;  
IONKIN, P.A.; ARKHIPOV, V.N.; PETROV, G.N.; BRAGIN, S.M.;  
PRIVEZENTSEV, V.A.; TAREYEV, B.M.

Professor N.G. Drozdov. Elektrichestvo no.10:90.0 '60.  
(MIRA 14:9)  
(Drozdov, Nikolai Gavrilovich, 1900-)

1. AREYEV, B.N.

9/05/80/000/001/000/000  
0012/0000

**AUTHOR:**

Raditsynskiy, A. P., Zhurav, V. N., Polov, A. I.,  
Sukov, V. A., Zvezin, B. A., Glikin, E. G. and  
others

**TITLE:**

T. G. Zhurav, on the occasion of his 50th birthday and the  
50th anniversary of his graduation from the  
Pedagogical Institute

**PERIODICAL:**

Elektronika, 1960, No. 11, p. 94

**NOTE:** For 20 years Raditsynskiy Zhurav has directed the  
electrotechnical and experimental work in the  
Institute of Electrotechnical Science (IETS) (Department of Electrical  
Engineering at the Experimental Scientific Research Institute of Social-  
Engineering Machine Tools) which plays an important role in laying down the  
technical policy for the electrical equipment of machine tools and  
other machinery. He is the author of more than 45 published papers and  
articles in the field of electrical drive and control systems.  
He has delivered a great number of lectures at All-Union Technical

Conf. 1/2

**ABSTRACT:** His main studies deal with controllable electric drives  
involving electrical, dynamoelectric, magnetic, and semiconductor ampli-  
fiers, as well as electromechanical clutches of various types and improve-  
ments of low-voltage apparatus. His studies on theory and practice of  
comprehensive automation in machine building are noteworthy. In recent  
years, his team developed a series of new systems for the numerical con-  
trol of machine tools, extensively using electronic means, and the cal-  
culation technique. V. G. Zhurav's pedagogical activity dates back to  
1936, and at present he is teaching at the Technology Faculty of the  
Moscow State University (MSU). (All-Union Correspondence Institute of Power  
Engineering). There is 1 figure.

End 2/2



84600

S/181/60/002/010/023/051  
B019/B056

9.2110 (1043, 1081, 1145)

AUTHORS: Tareyev, B. M. and Lerner, M. M.

TITLE: The Theory of Unilateral Conductivity of an Oxide Film  
on Aluminum

PERIODICAL: Fizika tverdogo tela, 1960, Vol. 2, No. 10, pp. 2487-2492

TEXT: The present theory of unilateral conductivity of oxide films on aluminum describes satisfactorily the behavior of an oxidized sample immersed in an electrolyte. If, however, the sample is taken out of the electrolyte, this theory fails in the description of a number of its properties. This theory is especially not developed for electrolytic capacitors with solid electrolytes. The authors suggest a hypothesis that holds good for oxide films which are formed in weak electrolytes, if the former has a positive potential. In this hypothesis it is assumed that a p-n- junction exists, which is destroyed with the formation of an n-type semiconductor: 1) by removing the voltage from the sample, 2) by taking the sample out of the electrolyte, 3) by applying a negative

Card 1/2

84600

The Theory of Unilateral Conductivity of an  
Oxide Film on Aluminum

S/181/60/002/010/023/051  
B019/B056

potential to the sample relative to the electrolyte (in this case the defects are in the oxide film). On the basis of this hypothesis suggested by the authors, it is possible to explain the behavior of oxidized Al-samples in the following cases: 1) The voltage is removed from a sample dipped into an electrolyte. 2) A negative potential is applied to the sample relative to the electrolyte. 3) The sample taken out of the electrolyte is subjected to the action of various media and temperatures. 4) Onto the sample taken out of the electrolyte, a layer of p-type semiconductor or of metal is applied. There are 24 references: 3 Soviet, 11 US, 3 Dutch, 5 German, 1 Swiss, and 1 French.

SUBMITTED: August 29, 1959

Card 2/2

BOGORODITSKIY, Nikolay Petrovich; PASYNKOV, Vladimir Vasil'yevich;  
TAREYEV, Boris Mikhaylovich; RENNE, V.T., doktor tekhn.nauk, prof.,  
red.; ZHITNIKOVA, O.S., tekhn.red.

[Electric engineering materials] Elektrotekhnicheskie materialy.  
Izd.4., perer. Moskva, Gos.energ.izd-vo, 1961. 528 p. (MIRA 14:6)

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(for Renne).

(Electric engineering—Materials)

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MAGIDSON, O.A., red.

[Fundamentals of the physics of dielectrics; lectures] Osnovy fiziki dielektrikov; lektsii. Moskva, Vses.zaochnyi energ. in-t. No.1.[Electrical conductivity of dielectrics] Elektroprovodnost' dielektrikov. Izd.4., perer. 1961. 46 p. (MIRA 15:7)  
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[Electric insulating materials with increased heat resistance]  
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[Scientific information in the field of electric and power engineering] Nauchnaya informatsiya v oblasti elektrotekhniki i energetiki; lektsiya. Moskva, Vses. zaachnyi energ. in-t, 1961. 17 p. (MIRA 16:12)

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ochnogo energeticheskogo instituta (for Tareyev).  
(Power engineering--Information services)

BRAGIN, S.M.; BUTAKOV, I.N.; KRASIN, A.K.; SOKOLOV, A.A.; STEKOL'NIKOV,  
I.S.; TAREYEV, B.M.; FIALKO, Ye.I.; CHILIKIN, M.G.

Fiftieth anniversary of the birth of Professor A.A.Vorob'ev.  
Elektrichestvo no.1:93 Ja '61. (MIRA 14:4)  
(Vorob'ev, Aleksandr Akimovich)

TAREYEV, B.M., doktor tekhn.nauk, prof.; LENER, M.M., kand.tekhn.nauk

Trends in the development of aluminum electrolytic capacitors  
abroad. Elektrichestvo no.5:81-84 My '61. (MIRA 14:9)  
(Electric capacitors)



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E114/E184


9.2/10

AUTHORS: Lerner, M.M., and Tareyev, B.M.

TITLE: Single phase formation of anodic foil for capacitors  
using alternating current

PERIODICAL: Referativnyy zhurnal, Elektrotekhnika i energetika,  
no.9, 1962, 6, abstract 9 B28. (Tr. vses. zauch.  
energ. in-ta, no.18, 1961, 77-91)

TEXT: Static formation of foil in a single bath directly  
connected to an a.c. power supply was considered. Two cases were  
analyzed: 1) when the impedance of the foil  $|\bar{Z}_f|$  exceeds that  
of the bath  $|\bar{Z}_B|$ ; and 2) when  $|\bar{Z}_f|$  is of the same order of  
magnitude as, or much less than,  $|\bar{Z}_B|$ . Case 1 is possible if  
the bath is made of a material which is not affected by a.c.  
(for instance stainless steel). In this case, a large (reverse)  
current flows in the conducting direction of the oxide skin which  
is being formed, and more energy is required than when forming  
with d.c., or by other a.c. methods, and this, to some extent,  
impairs the quality of the oxide film because it is intensively  
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heated during the conducting half cycles. At the same time, the voltage utilization factor  $K$ , which is the ratio of the voltage across the oxide film to the total voltage applied to the bath, is high - the whole voltage of the source of power is applied across the oxide film with the exception of voltage drop in the electrolyte. Case 2 is possible if the bath is made of a material susceptible to a.c. (for instance aluminium), and the surface area of the bath is about equal to the area of the foil (or is a little less). In case 2, the reverse currents flowing through the foil are much less than in case 1 because  $|Z_B| \geq |Z_Q|$ . This reduces the a.c. power consumption and the oxide film is of better quality because heating is less. In case 2,  $K$  is much lower, particularly when  $|Z_B| > |Z_Q|$ . Curves are given of capacitance and current as function of the time of a.c. or d.c. forming for case 1. The oxide film formation time counted from the moment when the current and the capacity cease to fall is about 15-20 mms for both a.c. and d.c. With a.c. the time of passage of ionic currents forming the oxide film is much less than the time of application of voltage.

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while with d.c. both intervals are the same. With a.c. and a single bath, the oxide layer forms only during that part of the half cycle during which the current passes through the foil in the non-conducting direction for the oxide layer. The ionic current begins to pass through the oxide layer at an instant when the applied e.m.f. is greater than the back e.m.f. in the oxide film, which is proportional to its thickness. The authors call the time of passage of the ionic current  $\Delta t$ , 'the absolute time of formation'. Inasmuch as  $\Delta t$  is a function of time of the a.c. forming period, full absolute time  $\tau$  during all the periods can be calculated from the formula:

$$\tau = \bar{\Delta t} \cdot \frac{t_{\text{form}}}{T}, \text{ where}$$

$$\bar{\Delta t} = \frac{1}{t_{\text{form}}} \int_0^{t_{\text{form}}} \Delta t \, dt \text{ is the time of formation of the oxide}$$

layer,  $T$  - full period of the forming voltage.

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If, to a first approximation, it is considered that the time function is linear

$$\Delta t = \frac{T}{2} \left( 1 - \frac{t}{t_{\text{form}}} \right)$$

then  $\tau = 5$  minutes for a.c. conditions compared with 20 minutes for d.c. Therefore, whilst a.c. is flowing the instantaneous density of ionic current should be somewhat greater than with d.c. Comparative curves are given plotting reverse capacitance against voltage for d.c. and a.c. In the range up to 160 volts the specimens are of the same capacitance if the effective voltage with a.c. is three quarters of the d.c. voltage (the forming takes place in aqueous solution 100 g/litre boric acid and 0.5 g/litre borax at a temperature of 80 °C.). In the second case, film formation was studied with various ratios of foil to bath surface area. It is shown that, as the bath area is reduced, the consumption of electric current decreases. The problem of comparing a.c. and d.c. processes is discussed. A.c. and d.c. can both be conducted in three ways: firstly, at

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a constant current density; secondly, at constant voltage; and thirdly, mixed. However, not all these ways are suitable for comparing a.c. and d.c. processes. In the first way comparison is difficult because with a.c. not all of the current is used for the formation of the oxide layer. It has a considerable capacitative component, and the reverse current does not form the oxide at all. It is impracticable to utilize the third (mixed) way for comparison because it partially includes the first way. The most convenient is the second way - comparison at constant forming voltage. The choice of the equivalent voltages for a.c. and d.c. can be made from the requirements of creating the same capacitance of oxide layer - its most stable and simply measured characteristic. In this case, other conditions being equal, the a.c. voltage  $U$  is considered equivalent to a d.c. voltage  $U$ , if the capacitance of the samples being compared after formation is the same. 2 references.

Abstractor's remarks. The detailed analysis of the a.c. method shows that an aluminium bath whose surface is much greater than  
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that of the foil cannot be included in case 1 to the same extent as the a.c. method with a stainless steel bath. Although with an aluminium bath of extensive surface  $|\bar{z}_B| \leq |\bar{z}_\phi|$  there is no sharp increase in the reverse current with a.c. under these conditions because both the bath and the foil have rectifying properties. Thus, the bath and the foil being formed in it comprise a system of two opposing electrolytic valves. The a.c. case with one aluminium bath of extensive surface was further investigated by the authors and practical confirmation was obtained of the possibility of the dynamic forming of an oxide layer using a.c. in industrial conditions in one bath, and in such conditions the oxide layer is of relatively high quality.

[Abstractor's note: Complete translation.]

PRIVEZENTSEV, Vladimir Alekseyevich; MAGIDSON, Abram Osipovich;  
TAREYEV, B.M., prof., doktor tekhn. nauk; YEMZHIN, V.V.,  
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no.3) (MIRA 15:10)

(Electric insulators and insulation)  
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RENNÉ, V.T., doktor tekhn. nauk, prof.; TAREYEV, B.M., doktor  
tekhn.nauk, prof., red.

[Study of the relationship between the properties of  
condenser paper and the quality of paper condensers;  
manual for the course in "Technology and electric  
insulation"] Issledovanie svyazi mezhdu svoystvami kon-  
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liatsii." Moskva, 1962. 29 p. (MIRA 17:5)

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N.P. Bogoroditskii; on his sixtieth birthday and the thirty-fifth  
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Izv. vys. ucheb. zav.; energ. 5 no.2:112-113 F '62.

(MIRA 15:3)

(Condensers (Electricity))

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inz. [translator]

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[Enamelled wires; a lecture] Emalirovannyye provoda; lektsiia.  
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in-t. No.1 - No.2. Izd.4., perer. 1962. 87 p.  
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1. The first part of the report is a summary of the work done during the past year. It includes a list of the projects completed and a brief description of the results obtained.

2. The second part of the report is a detailed description of the work done during the past year. It includes a list of the projects completed and a brief description of the results obtained.

3. The third part of the report is a list of the projects completed during the past year.

4. The fourth part of the report is a list of the projects completed during the past year. It includes a list of the projects completed and a brief description of the results obtained.

5. The fifth part of the report is a list of the projects completed during the past year.

6. The sixth part of the report is a list of the projects completed during the past year.

7. The seventh part of the report is a list of the projects completed during the past year.

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N.N., prof.; SEMENDYAYEVA, M.Ye., kand. med. nauk; TAREYEV,  
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**TAREYEV, V.M., professor.**

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tekhn. nauk, red.; SHERSTYUK, A.N., kand. tekhn. nauk, retsenzent.;  
KVITKOVSKIY, Yu.V., kand. tekhn. nauk, red.; MODEL', B.I., tekhn. red.

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(MIRA 11:12)

(Machinery)

TAREYEV, Vladimir Mikhaylovich, prof., doktor tekhn.nauk; NIGMATULIN,  
I.N., doktor tekhn.nauk, retsenzent; SHLENNIKOVA, Z.V., red.izd-va;  
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[Reference book on thermal calculation of operating processes in  
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Izd-vo "Rechnoi transport," 1959. 399 p. (MIRA 12:9)  
(Gas and oil engines)

11(1); 26(4)

PHASE I BOOK EXPLOITATION

SOV/3043

Tareyev, Vladimir Mikhaylovich, Doctor of Technical Sciences, Professor

Spravochnik po teplovomu raschetu rabochego protsessa dvigateley vnutrennego sgoraniya (Handbook on Thermal Calculations for Working Processes of Internal Combustion Engines) Moscow, Izd-vo "Rechnoy Transport", 1959. 403 p. Errata slip inserted. 8,500 copies printed.

Reviewer: I. N. Nigmatulin, Doctor of Technical Sciences; Ed. of Publishing House: Z. V. Shlennikova; Tech. Ed.: V. A. Bodrova.

PURPOSE: The book is intended for students of schools of higher technical education, aspirants, and technical personnel of research institutes and design bureaus.

COVERAGE: The book deals with basic calculations related to the thermal efficiency of internal combustion engines. The first part treats the theoretical principles underlying such calculations. It includes the theory, design, and operation of internal combustion engines. The principal efficiency standards and the values of respective coefficients are determined. The second part discusses ten main types of engines and demonstrates how

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Handbook on Thermal Calculations (Cont.)

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efficiency coefficients are calculated. The engines discussed differ in purpose, type of fuel, number of strokes, degree of compression, type of scavenging and supercharging or its absence, and speed. Particular attention is paid to calculation methods developed by V. I. Grinevetskiy. The contributions of Professors N. R. Briling, M. M. Maslennikov, and A. S. Orlin to the study of internal combustion engines are mentioned. There are 38 references, all Soviet.

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